REMARKS

Favorable consideration of this application is requested in view of the foregoing amendments and the following remarks. Claim 9 is pending in the application. Claims 1-8 and 10-118 were previously canceled without prejudice or disclaimer.

One or more [un]signed Declarations under 37 CFR 1.132 that provide(s) evidence regarding definiteness and nonobviousness having a strong nexus with the presently claimed invention is(are) being filed herewith. [Signed version(s) of the Declaration(s) will be filed in the near future.] The Declaration(s) show(s) that 1) the language of claim 9 is definite to one of skill in the art of optics when claim 9 is read in light of the description and drawings and 2) that the invention claimed in this application is not disclosed or suggested by Christensen et al (6326600) and/or Krishnamoorthy et al (5541914).

The claim is amended to more clearly define the invention, support for which is found in figure 29 and paragraph 0241. The specification is amended to explicitly describe image forming geometry and correct a typographical error.

At page 2 of the Office Action, claim 1 (sic) was rejected under 35 USC 112(2) as allegedly indefinite. Since claim 1 was previously canceled without prejudice or disclaimer, Applicants will respond to this rejection as though claim 9 was rejected.

The Examiner objects to the phrase "substantially corresponds to the node array." Referring to claim 9 as amended, this phrase is now recited in three different limitations with regard to image forming. What is meant by the phrase "with regard to image forming geometry substantially corresponds to the node array" in the context of the other limitations of pending claim 9 is that (1) there is an array of communication signal emitters exemplified by lasers or

LEDs emitting light directed through an optics array (e.g., array of lenses) towards a reflective structure (e.g., mirror) and (2) each node (e.g., module) of the node array (device) has formed thereon an optical image of the entire array of emitters that is reduced in size and lies at approximately the center of each module. (It is important to appreciate that the received light patterns are similar in each module so that the modules may be interchanged without altering the receiver positions within a module.) This means a) that the array of emitters is defined not just by an individual node but by the array of nodes and b) that ON EACH MODULE at the location where a particular emitter is imaged, an optical receiver (e.g., photodetector) is located to receive light (e.g., to decode modulated message(s) riding on the beam of light).

An example of every structural limitation recited in claim 9 is illustrated in figure 29 of this application as originally filed. To help the examiner, a visual analysis of the embodiment shown in figure 29 with regard to claim 9 follows.

Exhibit A shows figure 29. Exhibit B shows those portions that are viewable in figure 29 of I) the plurality of nodes, i) their optical emitters and ii) their optical receivers and II) the plurality of optics, i) their diverging elements and ii) their light collecting and focusing elements. Exhibit C shows the viewable members of the plurality of nodes of the embodiment depicted in figure 29, and the viewable optical signal emitters thereof. It can be appreciated 1) that portions of five of the nine nodes of the embodiment depicted in figure 29 can be seen in Exhibit C, and 2) that each of the nodes has four optical signal emitters (although only 2-3 of the optical signal emitters of each node can be seen in figure 29). Exhibit D shows the viewable members of the plurality of optical signal receivers located on each of the viewable members of the plurality of nodes. It can be appreciated 1) that again five of the nine nodes of this embodiment can be seen in Exhibit D, and 2) that each of the nodes has 36 optical receivers positioned to define an

individual receiver array that with regard to image forming geometry substantially corresponds to the emitters of the node array. Exhibit E shows the nine plurality of optics of the embodiment depicted in figure 29 positioned to define an optics array. It can be appreciated that each of the plurality of optics in this embodiment includes 4 diverging elements and one light collecting and focusing element. Therefore, the (3x3) 9 members of the plurality of optics array with regard to image forming geometry substantially correspond to the nine nodes of the node array and the (4x9) 36 diverging elements of the optics array with regard to image forming geometry substantially correspond to the (36) optical receivers of each node of the node array and each of the individual receiver arrays.

Accordingly, withdrawal of this rejection is respectfully requested.

At pages 2-3 of the Office Action, claim 1 (sic) was rejected under 35 USC 103 as allegedly obvious in view of Christensen et al (6326600) in view of Krishnamoorthy et al (5541914). Since claim 1 was previously canceled without prejudice or disclaimer, Applicants will respond to this obviousness rejection as though claim 9 was rejected.

Christensen teaches broadcast by employing *multiple* emitters at each node each sending the same information in parallel to any or all other nodes in the system. However, Christensen simply does not disclose or suggest fanning out from a single emitter.

Krishnamoorthy teaches optical fan-out for an optical pattern processor. However, Krishnamoorthy simply does not disclose or suggest multiple independent optical receivers for each pattern transmitted.

Even if one of ordinary skill were to combine the teachings of Christensen and Krishnamoorthy, the amalgamated teaching would not meeting the presently claimed combination of limitations. Claim 9 as amended requires a plurality of nodes positioned to

define a node array, each of the plurality of nodes having an optical signal emitter and a plurality of optical signal receivers, the plurality of optical signal receivers positioned to define an individual receiver array that with regard to image forming geometry substantially corresponds to the node array; and a plurality of optics optically coupled to the array of nodes, the plurality of optics positioned to define an optics array whose members with regard to image forming geometry substantially correspond to the nodes of the node array, each of the plurality of optics including a diverging element and a light collecting and focusing element, wherein the diverging elements of the optics array with regard to image forming geometry substantially correspond to the optical receivers of each node of the node array, wherein an optical signal from the optical signal emitter is fanned-out by the diverging element of one of the optics and broadcast to one of the plurality of receivers of all of the plurality of nodes by the light collecting and focusing element of all of the plurality of optics.

The currently claimed invention is simple to construct, inexpensive to manufacture, and scalable to a larger number of nodes. The nature of our invention, by construction, avoids point-to-point communications in favor of broadcast/multicast. For instance, the claimed invention can be based on each laser driving a multicast channel (allowing practically simple broadcast to take place) whereas each of the prior art lasers drove a single point-to-point channel. This difference is conceptual, functional, and practical as well as being novel and non-obvious compared to prior disclosures.

None of the embodiments of the Christensen and Krishnamoorthy references is arranged in a modular fashion that allows field servicing, "hot swapping" of modules, among other desirable features. Likewise, none of the embodiments of the references for achieving a device fully interconnecting *n* computing or communication nodes has either implied or

disclosed the advantage of modularity that dramatically reduces the number of optical components from *nxn* emitters and *nxn* receivers (prior art, particularly Christensen *et al.*) to *n* emitters and one ninth of *nxn* receivers (present invention as depicted in Fig. 29 and Exhibit A), with the concomitant reduction in electronics, circuits, and power consumption.

The Assignee of this application is the only presently known enterprise engaged in commercialization of a free-space, optical broadcast interconnect. Applicants' product has generated intense interest in certain government circles. These circles are keenly aware of developments and innovations in the area of multi-processor computing and, at the same time, desirous to acquire the Assignee's products. The Assignee of this application presently has firm orders for our products from US government contractors who have no other solution at present.

Accordingly, withdrawal of this rejection is respectfully requested.

Other than as explicitly set forth above, this reply does not include acquiescence to statements in the Office Action and/or Communication. In view of the above, all the claims are considered patentable and allowance of all the claims is respectfully requested. The Examiner is invited to telephone the undersigned (at direct line 928-226-1073) for prompt action in the event any issues remain that prevent the allowance of any pending claims.

In accordance with 37 CFR 1.136(a) pertaining to patent application processing fees, Applicant requests an extension of time from March 20, 2008 to June 20, 2008 in which to respond to the Communication dated December 20, 2007. A notification of extension of time is filed herewith.

The Director of the U.S. Patent and Trademark Office is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-3204 of John Bruckner PC.

Respectfully submitted,

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